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U. S. Dept. of Agriculture
Forest Service

State
Forest Service

F. 411323

Green forests and woods conserve soil and moisture; yield forage and timber; shelter wildlife; provide rest, relaxation, inspiration.

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. . . but desolate wastes are left by fires that sear.

Fire—Woods Enemy No. 1

Every year over 200,000 fires burn and sear the forests of the United States. Every year an average of 31,000,000 acres of forest land is burned over—an area larger than the State of New York.

Many of these fires do little damage. They are discovered and put out before much ground is covered. But some fires sweep over vast areas before they can be checked and controlled. They destroy large volumes of timber, kill helpless wildlife, and sometimes lay waste entire watersheds, villages, and towns, leaving a panorama of desolation and ruin in their wake.

There have always been forest fires on this continent. Fires started by lightning probably made many of the openings in which the red men pitched their tepees. With low atmospheric humidity and wind, other fires became conflagrations that swept over many portions of our forested domain.

Old trees still reveal scars of fires that occurred centuries ago. There are scar records of conflagrations in the bigtree forests of California as far back as A.D. 245 and again in 1441, before any white man had set foot in the West. We know that extensive fires swept over the forested mountain slopes of Colorado in 1676, 1707, and 1722, for venerable Englemann spruces still bear the scars. White spruce forests in Maine likewise tell of a fire that burned some 200 square miles in 1795.

With the rapid peopling of the continent in the nineteenth century, the rise of towns and cities, and the extraordinary increase in woods operations, the menace of fire was greatly augmented. One of nature's destructive forces—lightning—now had many careless persons as accomplices in burning the forests.

Great American Forest Fires

Some stupendous fires are recorded in the last century and a half, their damage often beyond calculation. We have but to glance at some of the most spectacular to gain an inkling of the ravages of forest fires:

1825 . . . The Miramichi fire in Maine and New Brunswick . . . 3,000,000 acres burned . . 160 persons killed.

1846 . . . The Yaquina fire in Oregon, covering 450,000 acres containing some of the finest stands of Douglas-fir, Sitka spruce, and western cedar that could be found on the Pacific coast.

1853 . . . The Nestucca fire on the Oregon coast . . . 320,000 acres burned.

The Pontiac fire in Quebec . . . 1,600,000 acres burned.

1865 . . . The Silverton fire in Oregon, said to have burned 1,000,000 acres.

1868 . . . The Coos fire on the Oregon coast, more than 300,000 acres burned from September 15 to October 20.

1871 . . . The Peshtigo fire in Wisconsin —one of the most calamitous in American history. About 1,280,000 acres burned . . . homes, towns, settlements swept away . . . 1,500 lives lost.

1876 . . . The Bighorn fire in Wyoming . . . 500,000 acres burned.

1881 . . . A Michigan forest fire destroyed a million acres of timber . . . property loss, $2,000,000 . . . 138 people killed.

1894 . . . The Phillips fire in Wisconsin . . . 100,000 acres burned . . . 300 persons killed.

The Hinckley fire in Minnesota . . . 160,000 forested acres burned . . . 12 towns wiped out . . . 418 lives lost.

1903 . . . The Adirondack fire in New York . . . 450,000 acres burned over.

The year 1910 is memorable throughout the West for unprecedented forest fires. The Baudette fire in Minnesota in October burned 300,000 acres and took 42 lives. In Washington and Oregon millions of timbered acres were laid waste. Smoke was sighted 300 miles out at sea. The British ship *Dumferline* reported the smell of smoke 500 miles west of San Francisco, and haze interfered with nautical observations for 10 days.

Idaho suffered worst of all. The year 1910 was unusually dry there. No spring rains fell. The drought continued through June, July, and August. Dry electrical storms occurred. By July 15 more than 3,000 fire fighters were at work in northern Idaho and western Montana. By the middle of August over 3,000 small fires had been put out and about 90 large ones brought under control, only to be fanned into flame again by high winds.

Then came the fatal day—Saturday, August 20. In the afternoon a hurricane arose. Entire hillsides of timber were uprooted. Forest rangers were almost blown from their saddles. The gale raged for 24 hours, and every smoldering fire was fanned into life. North Idaho and western Montana became a raging torrent of flames jumping rivers a quarter-mile wide. Rangers said the roar sounded like a thousand freight trains passing over a thousand steel trestles. Seventy-four fire fighters were burned to death. . . . By August 21 a strip of country 120 miles long and 20 to 35 miles wide had been laid waste.

Another forest fire was responsible for the famous Cloquet, Minn., disaster of October 1918, which razed to the ground the busy sawmill town of 12,000 people and consumed property worth $30,000,000. In this general region, out in the country and in the smaller settlements, some 400 persons lost their lives fighting or escaping from fires.

Among spectacular fires of recent years was the Matilja Canyon fire of September 1932 on the Santa Barbara National Forest of California. This devastated an area 32 miles long and 8 miles wide. Precious watersheds were denuded, impairing water supplies for 8 towns and cities and thousands of irrigated farms. It took 2,500 men to fight the conflagration, working from 17 fire camps. Airplanes, trucks, and pack trains were mobilized. Over 300 miles of fire lines were dug. And, while miraculously

there was no recorded loss of human life, numerous carcasses of deer and smaller game were found in the charred areas.

The Tillamook fire on the Wilson River area of Oregon in August 1933 was even more spectacular. It took only the friction of a steel cable wound round a stump to start it. Discovered almost immediately and attacked by a logging crew, the flames shot far past the cut-over area when high winds came.

Then came 5 days of fog, and things looked better. But the weather changed to very low humidity and high east winds again, and the fire roared over the Oregon coast, through the finest stand of virgin timber remaining in the State. The net area burned over in 11 days was 267,000 acres, estimated to contain 12 billion board feet, with a loss to industry, the public, labor, etc., of $350,000,000. The stumpage value alone of the timber destroyed was $20,000,000. And the amount of timber burned was equal to the entire timber cut of the United States in 1932.

We have had other big fires since 1933, but none so disastrous as the Tillamook burn.

What Forest Fires Do

Forest and woods fires kill billions of little trees—tomorrow's timber—every year. They also destroy enough big ones to make 3 billion feet of lumber. This is enough to build 215,000 five-room homes or make 5,700,000 tons of newsprint paper; or to fill 190,000 railroad boxcars. And more than 2,800 miles of railroad right-of-way could be maintained with the amount of labor it takes to fight these fires!

The indirect damage our 210,000 forest and woods fires do, each year, is known to be greater even though it can not be measured so definitely. It includes:

Marring America's beauty.—Disfiguring landscapes and recreational areas that give pleasure and inspiration to people who need vacations from monotonous routines, by turning green forests into charred and blackened snags. (See inside the front cover.)

Destroying wildlife and burning its homes and food. (See pages 6 and

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This is no uncommon sight after fires like that illustrated on the inside front cover.

7.) Birds and animals need ground cover for nesting and shelter. They need trees with their edible nuts and new shoots. Much wildlife is killed when forests are denuded by fire, and many animals and birds migrate.

Preparing the way for erosion.—Leaving the soil unprotected against wind and water by destroying the plant cover on our watersheds, causes the snow to melt early and the water to run off rapidly instead of gradually soaking into the ground to store up soil moisure needed for the spring and summer growing seasons.

Destroying feed—grass, weeds, and browse needed by livestock and big game.

Consuming or damaging farm and ranch buildings and fences and crops.

And taking a ghastly toll of human lives (see p. 9).

How Forest and Woods Fires Start

Studies proved that only *1* out of *10* forest and woods fires is due to natural causes—lightning, spontaneous combustion, etc. Of the others,

2 are intentionally set and 7 are due to carelessness, thoughtlessness, or ignorance.

Nine out of every 10 forest and woods fires are man-caused and *can* therefore be prevented.

Who Starts These Fires and Why

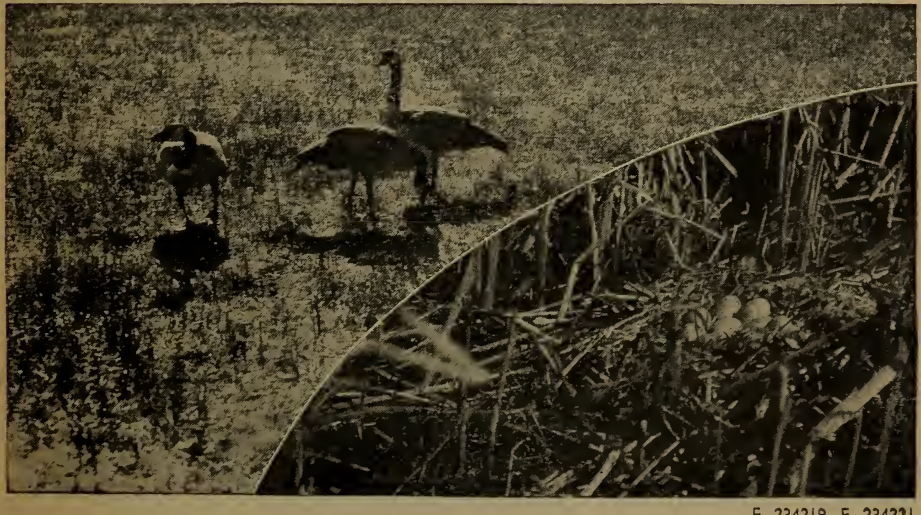
Man-made forest and woods fires are started by campers, hunters, fishermen, travelers, farmers, ranchers, stockmen, loggers, debris burners, smokers, victory gardeners—by men, women, and children—by average Americans who live in or near forest and woodland areas, who work in or near them, or who visit or travel through them.

A few of these fires are set maliciously—to get even with a neighbor, to create excitement, to provide jobs. More fires—nearly 1 out of every 4, in fact—get away from fires that are started to burn brush or sedge or grass or debris; to make berry patches or swamps more accessible; to "green up the woods" for cattle; or in attempts to kill chiggers, spiders, and snakes.

Burning automobiles also start some forest and woods fires. So do explosions from gas and oil wells, smoking out bees, tracer bullets fired from military planes on maneuvers. And trains passing through forest and woodland areas—by sparks from brake shoes or smokestacks, glowing coals from locomotive ashpans, or burning old ties along rights-of-way.

But most man-made fires—3 out of every 4—are due to plain everyday carelessness, thoughtlessness, or ignorance.

These fires are started by people on foot or horseback, in automobile or bus, who light cigarettes, cigars, or pipes, then flip glowing matches away. By people who throw away lighted cigarettes or pipe ashes while they're hot and wherever they may be, without thinking of dry grass, brown pine needles, or dead leaves so inflammable that they begin to smolder . . . a ground fire creeps . . . and perhaps climbs from small trees into the tops of big ones, then roars away like the one that made Oregon's Tillamook burn.



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Many nests are destroyed even by ground fires.

Fires that frequently get out of hand are also started by people who thoughtlessly burn on a windy or unusually dry day—to clear land or to get rid of brush, sedge, stubble, or weeds.

More campers and picnickers are becoming good woodsmen each year. But the inexperienced ones—and those who "forget"—are still responsible for too many of our forest and woods fires. They still build fires in spots not cleared down to mineral soil or too near brush, grass, or trees. Or they fail to put their fires ***dead*** out before leaving to visit with other campers, or before turning in for the night.

How YOU Can Prevent Forest and Woods Fires

Every year America's forests and woods and ranges suffer an average of 210,000 fires . . . 575 a day!

Every year almost a million man-days of labor is required to fight these forest and woods and range fires . . . labor equivalent to that of 100 crews of 100 men working for 100 days in smoke and grime to chop snags and saw them, to dig trenches and plow them, to throw dirt and pump water and chemicals, to surround every fire and, after gruelling and backbreaking work, put every fire ***dead*** out.

The cartoon reproduced on the ***outside*** back cover indicates one way you and your friends ***might*** help prevent man-made fires and save a heavy drain on manpower that should be engaged in productive work. Other ways—and more practical ones—are illustrated on other pages, and are summarized on p. 11.

Common-sense everyday ways to help prevent forest, woods, and range fires, as set down by people with experience in forest, woods, and range areas, read as follows:

Big Creek fire, Los Padres National Forest, California.

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Graves at St. Maries, Idaho, of 54 men who lost their lives fighting forest fire in 1910.

SMOKERS:

1. Stop to smoke—in safe places that are cleared of dry or inflammable materials.
2. Observe "no smoking" rules in forest, brush, and grass areas that have been closed to smoking because of high fire hazard.
3. Break your match in two. Hold the burned ends till they are cold. Then use your ashtray.
4. Crush out your cigarette stub, cigar stub, pipe ashes; be sure they are also "cold." Then—play safe again!

CAMPERS:

Before building a campfire—

1. Observe the State laws. If a permit is necessary, get it from a ranger or fire warden.
2. From a circle at least 5 feet in diameter, scrape all inflammable material away from the clean mineral soil.
3. Dig a hole in the center—build your fire in it—keep that fire small.

Before leaving your campfire—

1. Stir the coals while soaking them with water.
2. Turn sticks and drench both sides.
3. Soak the ground around the fire.
4. Be sure the last spark is dead.

FOREST INDUSTRIES:

1. Build and maintain safe fire lines around mills, logging camps, etc.
2. Keep fire-fighting tools handy; efficient spark arresters on locomotives, tractors, etc.
3. Keep fire patrols on the fire job—especially during dangerous fire weather.
4. Make frequent inspections—for fire hazards, and of tools and equipment.
5. If you burn slash or debris, be safe rather than sorry.
6. Comply fully with State laws.

FARMERS AND RANCHERS:

Never burn to clear croplands—

1. Without getting a permit from a ranger or fire warden, if State laws require it.
2. Without scraping a trail or plowing around for safety.
3. Without having plenty of tools and help on the job.
4. During unusually hot or dry or windy weather.

EVERYBODY:

Please read the condensed rules on p. 11. Read them again. Memorize them. Give them to a friend. Then do your part—and ask him to do his—to prevent forest, woods, and range fires in the United States.

Fire Seasons

There are two seasons of the year within which the danger from man-made forest and woods and range fires is usually Nation-wide—spring (March, April, May) and autumn (September, October, November). But the peak fire danger varies from region to region, and there are many people who want to concentrate their help during these critical periods. Hence the following information.

For eastern and central United States—including Connecticut, Delaware, Kentucky, Maine, Maryland, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, Vermont, Virginia, West Virginia, Illinois, Iowa, Indiana, Missouri, Ohio, Michigan, Minnesota, Wisconsin, North Dakota—there are 2 danger periods: March 1 to May 15, and September 15 to November 15. It is within these two periods that leaves and other ground cover dry out rapidly with the seasonal winds and fires catch easily and travel rapidly.

For the West—including Montana, Idaho, Washington, Colorado, Kansas, Nebraska, South Dakota, Wyoming, Arizona, New Mexico, Utah, Nevada, California, Oregon—there is one danger season: June 15 to September 30 in normal years.

In the deep South—Alabama, Arkansas, Florida, Georgia, Louisiana, Mississippi, North Carolina, Oklahoma, South Carolina, Texas, Tennessee —there is also one danger season, though it is a fall-winter-spring fire season instead of a summer one, and runs from October through the following May, except for a respite of about 1 month around Christmas time.

SMOKEY SAYS—

"Please memorize these rules."

1. *Crush* out your cigarette, your cigar, your pipe ashes.
2. *Break* your match in two. When you can hold the burned end between your fingers—play safe, use the ashtray.
3. *Drown* your campfire; then stir and drown it again.
4. *If you must use fire:* First, ask if the law requires a permit. Next, have help handy. Last, kill every spark!

To Get More Information

More information about forest, woods, and range fires, the damage they do, and how YOU can help prevent them, may be obtained by writing to: (1) State Forester or Commissioner of Conservation of your State; (2) Regional Forester, U. S. Forest Service at Missoula, Mont.; Denver 2, Colo.; Albuquerque, N. Mex.; Ogden, Utah; San Francisco 11, Calif.; Portland 8, Oreg.; Philadelphia 7, Pa.; Atlanta 3, Ga.; or Milwaukee 3, Wis.; (3) Director of Campaign, U. S. Forest Service, Washington 25, D.C.

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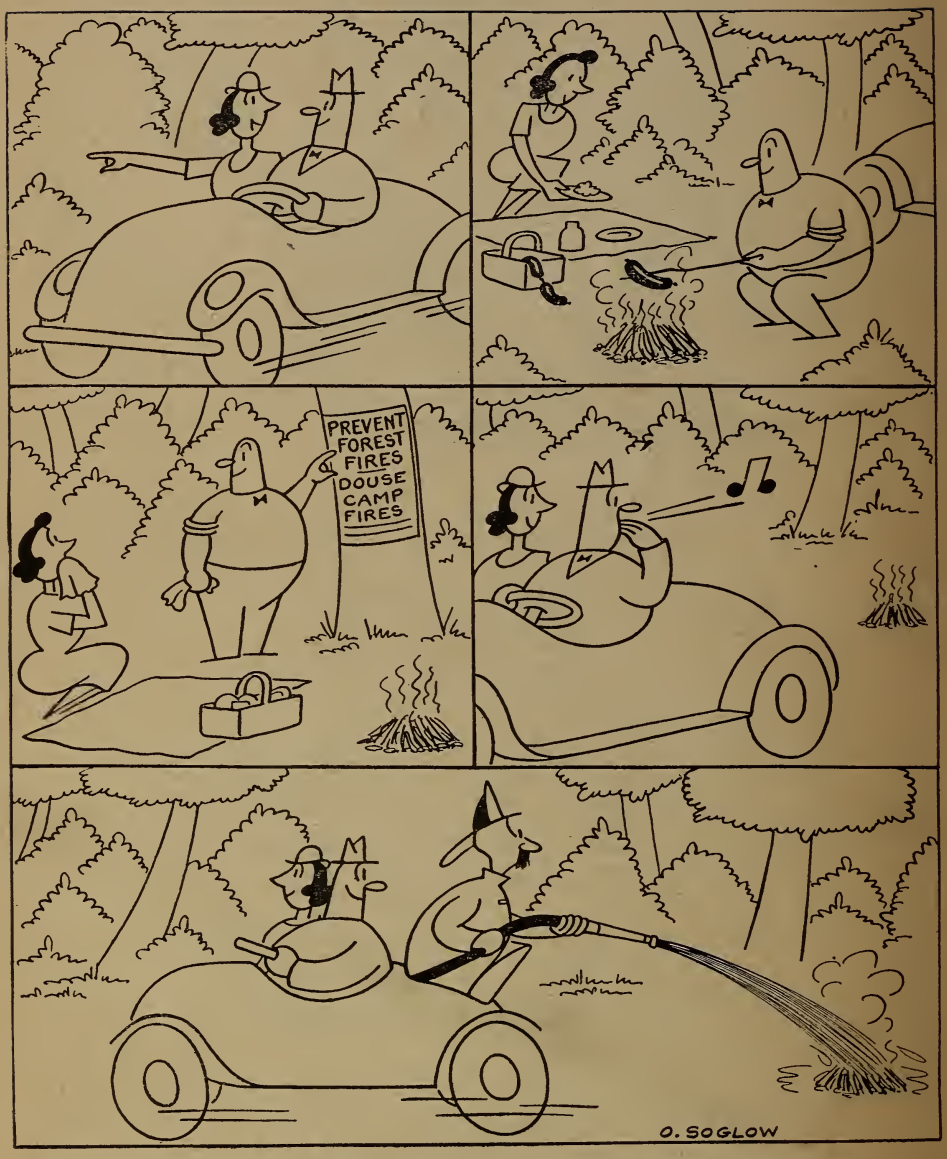

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